

**Office of Oversight
Review of the
Occupational Medicine Program
at the
Nevada Test Site**



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Office of Environment, Safety and Health

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ACRONYMS

AAAHC	Accreditation Association for Ambulatory Health Care
DOE	Department of Energy
ES&H	Environment, Safety and Health
FY	Fiscal Year
ISM	Integrated Safety Management
NTS	Nevada Test Site
NV	DOE Nevada Operations Office

OFFICE OF OVERSIGHT REVIEW OF THE OCCUPATIONAL MEDICINE PROGRAM AT THE NEVADA TEST SITE

1.0 INTRODUCTION

This report provides site-specific results on a Department of Energy (DOE) Office of Oversight review of the contractor occupational medicine program at the Nevada Test Site (NTS). The review at NTS is one portion of a recently initiated independent oversight review of occupational medicine programs across the complex. The goal of this Oversight review is to identify site-specific and DOE-wide issues that require management attention and to provide a foundation for improving occupational medicine program policy and site performance.

OVERVIEW OF THE NEVADA TEST SITE AND ITS OCCUPATIONAL MEDICINE PROGRAM

Activities: The mission of the DOE Nevada Operations Office (NV) is to maintain the capability to implement DOE initiatives in stockpile stewardship and management, crisis management, environmental management, alternative energy sources, and science and technology development. Key facilities and programs include: radioactive waste management sites, the Hazardous Material Spill Center, NTS Field Operations, the Device Assembly Facility, and the Nevada Support Facility, which is located in Las Vegas, Nevada. While the United States is under an ongoing nuclear weapons testing moratorium, NTS is utilized for other activities such as emergency response training, subcritical experiments, chemical spill tests, and waste management and environmental technology studies.

Budget: Funding for NV activities was \$682 million in Fiscal Year (FY) 1998 and \$687.6 million in FY 1999. Most funding is provided through the DOE Offices of Defense Programs, Nonproliferation and National Security, and Environmental Management.

Site: NTS is situated approximately 65 miles from Las Vegas. At 1,350 square miles (864,000 acres), NTS is one of the largest secured areas in the United States. NV and some support facilities are located in Las Vegas.

Staff: Approximately 4,000 persons are stationed at NTS and Las Vegas facilities. This includes 300 Federal employees and 2,200 contractor employees. Approximately 1,000 employees of other DOE contractors are also stationed at NTS or in the Las Vegas area support facilities.

Organizations: The Office of Defense Programs is the lead Cognizant Secretarial Office for NTS. The Office of Environmental Management manages the waste management activities in Area 3 and Area 5, the decontamination and decommissioning facilities, and the restoration sites. NV provides operational direction to and monitors performance of the site contractors. The management and operating contractor at NTS is Bechtel Nevada, which is teamed with Lockheed Martin and Johnson Controls. Wackenhut Services, Inc., provides security services for NTS under a prime contract with DOE.

Occupational Medicine Program: The occupational medicine program provides occupational medical care, emergency medical services, non-occupational "first visit" medical care, drug testing program support, employee assistance services and support, wellness services and medical waste management to DOE personnel and contractors working at NTS, Yucca Mountain Site Characterization Office, and NV, as well other facilities under the management of NV.

Background

The mission of the Office of Oversight includes evaluation and analysis of DOE policies and programs in the areas of environment, safety, health, safeguards, and security. As an important element of a DOE worker safety and health program, occupational medicine programs are included within the scope of selected Office of Oversight assessment activities.

Recent Office of Oversight assessments have identified weaknesses in some aspects of occupational medicine programs at several sites. For example, an independent oversight evaluation of emergency management across the DOE complex highlighted weaknesses in the interface between occupational medicine programs and emergency management programs at several sites. Because of such weaknesses, some sites may not be adequately prepared to provide timely and effective medical treatment to workers that have been injured or exposed to hazardous materials (e.g., information on the hazardous materials may not be readily available at site or local medical treatment facilities). Similarly, reviews of occupational medicine programs at individual sites during Office of Oversight safety management evaluations indicated that occupational medicine programs at some sites are not accomplishing all of their objectives.

Collectively, the recent assessment results indicated a need for a more comprehensive review of occupational medicine programs. Correspondingly, the Office of Oversight decided to perform a review of occupational medicine programs across the complex. The first phase of the review will encompass three sites and will be completed in FY 1998. An interim report will be prepared to identify trends and issues that warrant additional review. In the second phase, additional sites will be reviewed in FY 1999 and a final report will be prepared.

At NTS, the occupational medicine program has been impacted by a lack of leadership for the past two years and the need to adapt to dramatic reductions in funding and resources. The government decision to ban nuclear weapons testing has resulted in reductions in NTS funding and uncertainty about future missions, and has caused NTS to dramatically reduce overhead funding, including funding for the Bechtel Nevada occupational medicine program. In the past few years, the medical staff has been reduced from 28 employees to nine. Currently, two part-time physicians provide professional medical services for two clinic facilities. Other factors, such as the shortage of qualified physicians in the Las Vegas area, unique working conditions, and applicant salary demands, have hindered the efforts to hire a qualified medical director and staff physician. The staff and resource reductions, combined with several unexpected personnel changes, left the medical program without a full-time medical director or full-time staff physician to administer the occupational medicine program.

Approach and Methodology

The Office of Oversight decided to use a unique approach to performing the reviews of the individual sites. Specifically, the Office of Oversight expertise in assessing occupational medicine programs is being enhanced by using licensed medical physicians who specialize in occupational medicine. To obtain such expertise, the Office of Oversight has teamed with the Accreditation Association for Ambulatory Health Care (AAAHC) to perform the review.

The AAAHC is a professional organization that performs surveys of medical clinics and accredits programs that have demonstrated compliance with an established set of nationally recognized

standards. As part of the teaming agreement, the AAAHC supplied certified surveyors to supplement the Oversight team in the evaluation of the Bechtel Nevada occupational medicine program.

The AAAHC participation on this review served two purposes:

- The AAAHC performed a survey according to its established procedures and standards. As part of this effort, the medical staff completed a self-assessment (called a prereview survey in the AAAHC process) against the AAAHC standards. The site can use the AAAHC evaluation to determine its status against national standards. It also provides Bechtel Nevada with AAAHC suggestions for improvement and an initial assessment of the efforts that Bechtel Nevada would need to perform should it decide to seek accreditation.
- The positive attributes, weaknesses, and insights from the AAAHC survey were factored into the Oversight evaluation of occupational medicine program performance. The insights from professional AAAHC surveyors were considered, in combination with other information gathered by the Office of Oversight team during interviews and tours. In this manner, the AAAHC survey was an important component of the Office of Oversight evaluation of the effectiveness of the Bechtel Nevada medical program with respect to current DOE policy and requirements.

This unique approach to independent oversight provided an effective and efficient method to obtain the independent perspectives of qualified and experienced medical professionals.

Standards for the Site-Specific Review

This independent oversight review at NTS focuses on the effectiveness of NV and contractor line management in establishing and implementing an effective occupational medicine program, as defined by applicable DOE orders and policies. The DOE policies that specifically apply to the occupational medicine program are DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, and DOE Policy 450.4, Safety Management System. DOE Order 440.1A delineates the basic program elements necessary for an occupational medicine program. It requires that contractors use a graded approach to establish medical program requirements and utilizes supplemental orders and program guidance documents to establish specific medical program expectations and requirements. DOE Policy 450.4 defines a comprehensive and coordinated program of Environment, Safety and Health (ES&H) expectations and activities that is commonly referred to as integrated safety management (ISM). All site ES&H programs, including occupational medicine programs, are to be implemented within the ISM framework.

In performing reviews of occupational medicine programs across the country, the AAAHC uses a set of nationally recognized standards. The AAAHC standards are relevant to all DOE sites and identify core program elements that are essential for high-quality patient care. In addition to the core standards, AAAHC reviews the site occupational health services and identifies applicable adjunct standards. DOE Headquarters Office of Occupational Medicine supports the accreditation process and is in the process of modifying DOE Order 440.1A to be more consistent with accreditation provisions and guidelines. Although not currently a specific requirement of DOE policy or the Bechtel Nevada contract, the AAAHC standards generally reflect the philosophy

outlined in DOE safety management policies and are relevant to all DOE sites. The AAAHC standards emphasize the quality improvement process, which is a central theme of ISM.

Focus of the Review

Consistent with DOE policy and requirements, a comprehensive occupational medicine program performs several interrelated functions:

- **Clinic services.** Onsite medical staff perform various routine medical procedures (e.g., physical examinations, laboratory testing) to identify and treat occupational illness or injuries, ensure worker fitness for duty, facilitate recovery and safe return to work, and refer patients for further treatment as indicated. In this regard, the occupational medicine program serves as an onsite clinic and provides timely and convenient access to medical services. In some cases, access to subsidized health services is part of employee benefits packages.
- **Medical surveillance.** DOE sites often involve hazardous materials and the work at DOE sites can involve potentially hazardous conditions. Correspondingly, DOE sites need to identify job categories that could involve specific chemical, biological, or physical hazards and establish a process for routine health examinations and monitoring of employees in such categories. Such a process needs to be coordinated so that the information collected is useful and available to ensure that safety and health management has the necessary information to identify trends, protect employees, respond to requests for information from individuals and stakeholders, and ensure that accurate information is available for managers to ensure the adequacy of the health protection program.
- **Support for site efforts to monitor and control exposure to radiation and hazardous materials.** DOE sites must monitor and control radiation exposure in accordance with a radiation protection plan. Such efforts often require various methods to measure radiation exposure (e.g., whole body counts) that may be performed on a routine basis or to determine the extent of exposure or appropriate medical treatment after an incident. Similarly, DOE sites must comply with various Federal and state regulations related to worker safety and hazardous materials (e.g., Occupational Safety and Health Administration requirements for protection against exposure to hazardous substances). The occupational medicine program must coordinate with other site organizations to ensure that site hazards are identified and that appropriate measures to mitigate hazards are in place.
- **Support for emergency management preparation and response.** DOE sites must be prepared to handle emergencies and unplanned releases of radioactive or hazardous materials. Occupational medicine programs need to be able to provide support during an emergency situation (e.g., providing treatment to injured workers, coordinating support with local hospitals, ensuring that information about hazardous materials is readily available to medical personnel that treat exposure victims, and providing recommendations for protecting the public).

In performing these activities, DOE sites must maintain information about hazardous materials. Many of the materials used at DOE facilities and laboratories, such as beryllium, pose significant health risks and are not commonly encountered in general industry and thus may be unfamiliar to community health care providers in the event of an accidental exposure. The occupational

medicine program personnel must also be involved in keeping track of the types of hazardous materials at the site, their health effects, and recommended treatments.

The Office of Oversight review team focused on the sites' ability to accomplish each of the above functions. Section 2.0 of this report identifies positive attributes, issues requiring attention, and conclusions regarding the overall effectiveness of the Bechtel Nevada occupational medicine program in meeting its objectives. Section 3.0 presents opportunities for improving the current program.

2.0 RESULTS

Positive Attributes

1. **The Bechtel Nevada occupational medicine program achieved substantial compliance with a majority of the AAAHC standards.** The AAAHC survey determined that the Bechtel Nevada occupational medicine program was substantially compliant (which is the highest of the three possible ratings assigned in an AAAHC survey for each standard) in five of eight core standards including: administration, quality of care provided, clinical records, professional improvement, and facilities and equipment. Adjunct standards that pertain specifically to occupational health services that were substantially compliant included: pharmacy/medication controls and immediate/urgent care services. The survey indicated that the basic elements of a comprehensive occupational medicine program have been established and would comply with national standards if certain elements were improved (e.g., implementation of a quality management program and establishment of a more stable organizational structure and medical program leadership).
2. **The Bechtel Nevada occupational medicine staff has maintained a high level of morale and commitment to preserving occupational medicine program services at NTS.** The Bechtel Nevada medical staff has continued to maintain essential medical program services despite reductions in staffing and resources. The medical staff has been responsive to the needs of management and employees and has been able to support special requests, such as the Yucca Mountain silica issue and the employee immunization program. Although NTS has not had a full-time medical director for about two years, the medical staff has routinely accepted extra duties and responsibilities to ensure that medical services are provided and projects are completed.
3. **Recent senior management commitment to a quality occupational medicine program is evident.** Senior management from both NV and Bechtel Nevada have demonstrated their support to enhance the quality of and strengthen the occupational medicine program in order to satisfy NTS requirements. Plans are in place to recruit a qualified site medical director and one additional staff physician to ensure adequate leadership and depth of the contractor occupational medicine program. The recent appointment of an interim medical director has provided the necessary coverage so that essential programs, such as personnel assurance programs, can be maintained at the required levels.

Weaknesses and Issues Requiring Attention

1. **The inability to attract and retain a qualified occupational medicine director has hindered development of a fully effective occupational medicine program.** The vacancy for the site occupational medicine director position has been an ongoing concern. Following the loss of a former medical director due to an illness in 1996, the medical director position was never officially filled except for two, short time periods. The vacancy, and the difficulties in attracting qualified applicants, has affected the medical program's ability to maintain a quality management process within the occupational medicine program and has affected the medical department's ability to effectively interface with NTS operations management and safety and health staff. Programmatic responsibilities, such as interfaces with emergency management (e.g., coordination and communication with community hospitals necessary for emergency

planning), have not been effectively addressed. Weaknesses in various aspects of the site medical program (e.g., charting and documentation deficiencies, fewer work site familiarization visits, quality management activities) are not being addressed in the absence of a full-time medical program manager. The absence of a full-time medical director limits efforts to ensure that an effective balance of medical services and resources are available to maintain a comprehensive occupational medicine program.

2. **The occupational medicine program is not adequately defined by proposed site requirement documents.** The process to develop Work Smart standards for the Bechtel Nevada occupational medicine program relies on selecting Federal, state, and local requirements to describe and define occupational medicine program services. The process currently does not include all requirements as stated in DOE Order 440.1A and is not sufficient to define a comprehensive occupational medicine program that reflects DOE requirements. The Work Smart process did not specifically reflect provisions of DOE orders and guidance documents including requirements related to program implementation (e.g., roles, responsibilities, and authorities of the medical director), program integration (roles and responsibilities of health team members), and quality management (methods to identify and correct programmatic deficiencies). In addition, changes to DOE policy and contractor occupational medicine program requirements would not necessarily be incorporated into a future Bechtel Nevada contract if the Work Smart process does not recognize or reference medical program requirements contained in DOE Order 440.1A, Chapter 19 (Contractor Requirements Document).
3. **Quality management programs have not been established to evaluate and provide feedback to the contractor occupational medicine program management.** Medical program management has not implemented a formal quality management program that can identify and correct programmatic deficiencies. Activities such as a peer review program for clinical practice and medical provider performance evaluations are not currently in place. The AAAHC also noted that professional employee credential files were not complete or reviewed annually. In addition, quality improvement activities have not been a priority because of critical medical program staff shortages. Several recent quality improvement activities have been initiated but not documented by medical program staff. Further, NV and Bechtel Nevada do not have a formalized performance assessment program to evaluate and provide feedback to management about the quality and effectiveness of medical surveillance programs and medical program interfaces with line management and other site organizations (e.g., industrial safety and hygiene, health physics, and emergency management).

Conclusions

The review found that a majority of the routine clinical services and core occupational medicine program elements is in place at NTS. Administration, quality of care provided, clinical records, professional improvement, and facilities and equipment were all substantially compliant with AAAHC core standards. Adjunct standards pertaining to the occupational medicine program, including pharmacy and medication procedures and immediate/urgent care services, also comply with national standards. However, NTS does not meet AAAHC standards and DOE requirements in the areas of quality management and improvement, governance, occupational health documentation (employee occupational exposure information), and patient rights information.

The inability to fill the medical director position has limited the development of an effective contractor occupational medicine program. The ability of the medical staff to plan and implement a comprehensive occupational health program based on knowledge of work site hazards and coordination with line management and safety and health professionals is clearly beyond the scope of current staffing and resources. Other program requirements, such as quality management and improvement activities, feedback mechanisms from medical surveillance programs, and coordination with emergency management activities, will continue to be impacted until these key positions are filled.

The process to define and document site occupational medicine program requirements through the Work Smart process relies on referencing Federal, state, and local regulations and is not comprehensive with respect to DOE requirements. Provisions of DOE occupational medicine policy and guidance are not included in the current proposed Work Smart document. Program requirements such as medical program integration, job task and hazard analysis for employees, quality management, and emergency program responsibilities are not clearly specified under the proposed requirements system. A formalized performance assessment and feedback program, as required by the ISM policy, is also not currently in place. Such a program is needed to ensure that the medical program is knowledgeable of site-specific hazards and provides for effective medical surveillance of employees potentially exposed to those hazards. Without effective feedback, NV, Bechtel Nevada, and Yucca Mountain Project (which relies on Bechtel Nevada for medical program services) management does not have a reliable basis for evaluating occupational medicine program effectiveness or making improvements.

3.0 OPPORTUNITIES FOR IMPROVEMENT

The review identified several opportunities for improvement. The potential enhancements are not intended to be prescriptive. Rather, they are intended to be reviewed and evaluated by DOE and contractor management, and modified as appropriate to meet DOE and site-specific objectives and expectations.

1. NV and Bechtel Nevada management should provide clear programmatic direction through the communication of requirements to implement an occupational health program that meets the expectations of DOE policy and guidance. NV and Bechtel Nevada management should review the standards and requirements specific to contractor occupational medicine programs and include applicable requirements that define the roles and responsibilities of the medical director and the interface of the medical program to the site health and safety program.
2. NV and Bechtel Nevada should ensure that ongoing efforts to fill key positions, such as the medical director, are implemented in a timely manner. Where salary compensation caps for the hiring of a fully qualified medical director are a barrier to attracting and retaining qualified candidates, special arrangements may need to be considered by senior management.
3. NV and Bechtel Nevada should develop a formalized quality management program to ensure the effective performance of the contractor occupational medicine program. Performance assessments should include elements of the DOE medical program requirements concerning medical surveillance programs, coordination and communication of hazard/exposure data, and rosters of employees potentially exposed to hazards. Reviews of emergency management planning and response and coordination with offsite medical facilities should also be included in the management feedback process. The occupational medicine program should institute a professional peer review process and medical provider evaluation program that reviews clinical practices and provides procedures for correcting identified deficiencies.

APPENDIX A

ACCREDITATION ASSOCIATION FOR AMBULATORY HEALTH CARE, INC. SURVEY COMMENTS NEVADA TEST SITE OCCUPATIONAL MEDICINE PROGRAM

Introduction

As part of its normal survey process, AAAHC provides detailed evaluation results to the site. The AAAHC results include a rating (i.e., substantially compliant, partially compliant or non-compliant) for each of the applicable standards. The standards are published in the “Accreditation Association Handbook for Ambulatory Health Care” and describe organizational characteristics the AAAHC believes are essential for high-quality patient care. For those standards that are partially compliant or non-compliant, the surveyor provides written comments about the observed weakness.

The AAAHC report for Bechtel Nevada consisted of approximately 130 pages of completed evaluation forms, which included supporting comments. The AAAHC also identified a set of potential improvements that would be needed to obtain accreditation. The Office of Oversight developed the following summary of the AAAHC comments.

AAAHC Assessment

The Bechtel Nevada occupational medicine program was in substantial compliance in nine of 13 standards determined to be applicable to the AAAHC accreditation process.

The areas of substantial compliance included:

- Administration
- Quality of care provided
- Clinical records
- Professional improvement
- Facilities and equipment
- Immediate/urgent care
- Pharmaceutical services
- Other professional and technical services
- Teaching and publication activities.

The areas of partial compliance included:

- Rights of patients
- Governance
- Quality management and improvement
- Occupational health services.

While many elements of an effective occupational medicine program are in place, several key areas of weaknesses were noted in the areas of rights of patients, governance, quality management and improvement, and occupational health services, which are impacting the effectiveness of the

medical program. The AAAHC surveyor indicated that the lack of leadership within the medical program has contributed to weaknesses in peer review and attention to details of the practice of occupational medicine. The organization has demonstrated high proficiency in effecting improvements but has not applied quality improvement processes nor documented their system or results in a manner that permits AAAHC affirmation of sustainability of their quality management process. The following paragraphs summarize key AAAHC comments related to partially compliant AAAHC core and adjunct standards.

Rights of Patients

A patient rights document is in draft form and has yet to be published. The document does not include a statement concerning patient responsibilities and the document itself could be improved by including additional information. The surveyor noted that the patient responsibilities portion could specify the individual responsibilities for reporting injuries and illness, having knowledge of hazards in their individual work areas, and communicating questions or concerns with past exposures. Also, the patient rights information should be readily available to employees and staff.

Governance

Several issues were noted under the governance topic. The vacancy of the medical director position has compromised the effectiveness of communication, especially between occupational medicine and industrial hygiene personnel. Bechtel Nevada personnel program policies and medical program requirements have not been effectively coordinated concerning the past suspension of professional medical licenses. Bechtel Nevada has not required the medical program to establish a credential program for professional staff that ensures the annual review of license requirements, Drug Enforcement Administration licensure (i.e., the controlled medication certificate), and adherence to the educational continuing credit program to maintain practice privileges.

Quality Management and Improvement

The Bechtel Nevada medical clinics have implemented peer reviews to check for essential items in the medical record. However, AAAHC noted that the peer review process was only partially compliant and was not an integral part of the peer-based quality management program. The most recent medical director did not support or nurture the peer review process.

A formal quality improvement program has not been established and quality improvements have not been documented. It was evident that numerous successful improvements have been made, but a formalized program that determines whether corrective measures have achieved the expected result has not been established.

The surveyor indicated that NTS should consider developing medical program policies and procedures for identification and management of the impaired health care worker and that risk management training should be provided for medical program employees.

Occupational Health Services

Occupational medicine personnel should be familiar with workplace hazards for each employee,

however, the AAAHC noted that health care providers are not informed about the potential workplace hazards for each employee, and do not record such information on patient records. Information about job hazards is sometimes limited to a job title that implies potential hazards but is not a reliable or definitive indicator. The physicians do not record employees' inquiries about potential hazards. In some physical injury cases, the return-to-work evaluation frequently does not describe the relevant work demands or work environment.

Preplacement examinations do not record previous employment occupational hazards or previous injuries or illnesses. Respiratory fitness examinations do not indicate the job requirement for a respiratory examination or the type of respirator to be used. The physicians do not record their rationale for approval of respirator usage. The physicians do not record their rationale for return-to-work evaluations.

Bechtel Nevada has not designated a permanent medical director for more than two years, which has contributed to poor leadership and suboptimal performance of key occupational medicine program functions.